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FROM: Donna M. Ferber, Ph.D.

RE: USSN 09/936869 (Our docket 103-01)

IF TRANSMISSION IS UNCLEAR, PLEASE TELEPHONE (303) 499-8080
IMMEDIATELY AND ASK FOR Donna - Here is the International Preliminary Examination
Report in PCT /NZ00/00031. We will plan to submit the cited references as part of the
Information Disclosure Statement, along with the Sequence Listing & diskette with the
executed Inventors' declaration after we receive the invitation to do so. Please let me know if I
can be of further assistance.

Donna Ferber 33,878

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | |
|---|---|--|
| Applicant's or agent's file reference P825635 CJE/jfd | FOR FURTHER ACTION | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416). |
| International Application No. PCT/NZ00/00031 | International Filing Date (day/month/year) 17 March 2000 | Priority Date (day/month/year) 17 March 1999 |
| International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ C07H 21/04 A01H 1/00 C12N 15/82 | | |
| Applicant CARTER HOLT HARVEY LIMITED et al | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
 These annexes consist of a total of 3 sheet(s).
3. This report contains indications relating to the following items:

| | | |
|------|-------------------------------------|---|
| I | <input checked="" type="checkbox"/> | Basis of the report |
| II | <input type="checkbox"/> | Priority |
| III | <input type="checkbox"/> | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| IV | <input type="checkbox"/> | Lack of unity of invention |
| V | <input checked="" type="checkbox"/> | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| VI | <input type="checkbox"/> | Certain documents cited |
| VII | <input type="checkbox"/> | Certain defects in the international application |
| VIII | <input type="checkbox"/> | Certain observations on the international application |

| | |
|---|---|
| Date of submission of the demand 10 October 2000 | Date of completion of the report 18 July 2001 |
| Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929 | Authorized Officer CRAIG ALLATT Telephone No. (02) 6283 2414 |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NZ00/00031

I. Basis of the report

1. With regard to the elements of the international application:*
- ☐ the international application as originally filed.
- ☒ the description, pages 3-23, as originally filed,
pages , filed with the demand,
pages 1-2, received on 22 December 2000 with the letter of 22 December 2000
- ☒ the claims, pages 25-27, as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages 24, received on 22 December 2000 with the letter of 22 December 2000
- ☒ the drawings, pages 1-7, as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☒ the sequence listing part of the description:
pages 1-12, as originally filed
pages , filed with the demand
pages , received on with the letter of
2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).
3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☒ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☒ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
4. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NZ00/00031

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|---------------|-----|
| Novelty (N) | Claims 1 - 30 | YES |
| | Claims | NO |
| Inventive step (IS) | Claims | YES |
| | Claims 1 - 30 | NO |
| Industrial applicability (IA) | Claims 1 - 30 | YES |
| | Claims | NO |

2. Citations and explanations (Rule 70.7)

The following documents identified in the International Search Report have been considered for the purposes of this report:

D1 J. Lui et al GenBank Accession Number AF023615 26 January 1999

"Pinus radiata MADS box protein mRNA, complete cds"

D2 R. Rutledge *The Plant Journal* (1998) 15(5) pp 625-34

New Citations

D3 K. Tandre et al *Plant Molecular Biology* (1995) 27 pp 69-78

Inventive Step (IS)

Claims 1 - 30 lack an inventive step in light of D1. These claims are to a plant promoter and its use with reference to sequence ID numbers 1 and 2. The promoter is from the gene PrAG1 (sequence ID number 3), a gene encoding a MADS box protein. The sequence ID 3 is identical to AF023615. The identification of a promoter of a known gene utilises only well known techniques of the art and is not considered to possess an inventive step.

The attorney argues that the skilled addressee would not know PrAG1 and the protein AF023615 were the same. The name PrAG1 is merely a label, as is AF023615, and does not change the nature of the chemical entity to which it refers. As the sequence of PrAG1 is identical to the sequence of AF023615 the compounds are one and the same and the label assigned to the compound is not relevant. Once the sequence of a gene is known (by whatever name) well known techniques can be used to identify the promoter. Consequently it is not inventive to identify and sequence the promoter of a known gene. Therefore, claims 1 - 3 lack an inventive step.

The attorney also argues that MADS box proteins comprise a family of transcriptional regulators from different species and have different functions and tissue specificities. MADS box proteins are well known in the art as plant proteins involved in the regulation of flowering. Therefore, the skilled addressee would expect that a protein labelled as a MADS box protein would be involved in flowering. D2 and D3 show that MADS box proteins are found in both conifers and angiosperms and perform the similar functions. Therefore, a skilled addressee encountering a protein labelled as a *Pinus radiata* MADS box protein would expect that protein to be regulated in response to flowering. Therefore, the skilled addressee would expect that protein's promoter to be regulated by flowering events. Hence identifying the promoter of a known MADS box protein and using that promoter to control gene expression during flowering lacks an inventive step. Therefore, claims 4 - 30 lack an inventive step.

(Continued in Supplemental Box)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/NZ00/00031

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V

The attorney argues that the properties of the promoter are inventive because the promoter can be used in the production of a construct that is able to completely knockout flowering in both male and female plants. That a construct can completely knockout flowering in both male and female plants is a function of both the promoter and gene(s) used. It is not a function of only the gene(s) used or the promoter used. It therefore appears that it is not actually the promoter which is inventive, but the construct. It appears that the construct brings about the desired effect. The attorney argues that the construct produced (i.e. the single construct that knocks out flowering in both male and female plants) is novel and inventive. The claims do not define the necessary promoter and gene combination necessary to bring about this result. Therefore, although the promoter may be used to create a novel and inventive construct, as stated by the attorney, the claims do not define this construct although the description does support such a construct (page 22 lines 1 - 5 and page 22 line 31 - page 23 line 12).

*** RX REPORT ***

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